August 5, 2002

The Honorable Ann M. Veneman
Secretary
United States Department of Agriculture
1400 Independence Avenue, SW
Washington, DC 20250

Dear Secretary Veneman:

The recent recall of 19 million pounds of beef manufactured by ConAgra Beef Co. because of contamination with *E. coli* O157:H7 has focused the nation's attention on the safety of the food supply. Unfortunately, *E. coli* O157:H7 is not the only cause for concern.

I am writing to bring to your personal attention a growing and serious threat: a dangerous strain of *Salmonella* bacteria that did not exist in the United States five years ago and now has spread across the country. The strain, called multidrug-resistant *Salmonella* Newport, has caused at least 13 outbreaks of disease, including a recent five-state incident that led to one death and 17 hospitalizations. Multidrug-resistant *Salmonella* Newport is resistant to therapies used for young infants, including ceftriaxone, so its spread poses a special risk to children's health.

Because multidrug-resistant *Salmonella* Newport outbreaks have been traced back to farms and may implicate agricultural practices, including the overuse of antibiotics, this public health threat requires an aggressive response from USDA. In contrast to its policy for *E. coli* O157:H7, however, USDA does not routinely test for multidrug-resistant *Salmonella* Newport and does not respond immediately upon finding the potentially deadly bacteria. As a result, there are no systems in place to stop the spread of the bacteria before it causes human illness. This is dangerous and inadequate.

I urge you to take decisive steps to investigate and curb the spread of multidrug-resistant *Salmonella* Newport. The Administration has yet to support enforceable standards for *Salmonella* contamination in beef and poultry. This position should be reconsidered in light of the serious threat posed by multidrug-resistant *Salmonella* Newport. I also urge USDA to

consider designating multidrug-resistant *Salmonella* Newport an adulterant in beef, an administrative step that would allow the agency to take immediate action to protect Americans from its harms. The rest of this letter explains these issues in more detail.

The Rise of Multidrug-Resistant *Salmonella* Newport

Salmonella is a diarrhea-causing bacteria that usually infects humans by consumption of contaminated food, contact with animals, or direct person-to-person spread.[1] While most of the estimated 1.4 million *Salmonella* infections in the United States each year resolve spontaneously, young infants and immunocompromised adults can become seriously ill and require therapy to survive. In part because of USDA's efforts through the Hazard Analysis and Critical Control Point (HACCP) program, the number of *Salmonella* infections dropped by 15% from 1996 to 2001.[2] However, hidden in this overall decline is a rise in infections caused by one type of *Salmonella* infection – *Salmonella* Newport.

According to the CDC's surveillance system, human infections from *Salmonella* Newport in the United States doubled between 1997 and 2001.[3] In 1997, 4.6% of all *Salmonella* infections reported to CDC were of the Newport strain; by 2001, this had risen to 10.0%, the highest proportion of infections due to *Salmonella* Newport in the 40 years that CDC has conducted surveillance.[4]

What makes the rise in *Salmonella* Newport infections so significant is antibiotic resistance. Since 1999, a growing proportion of *Salmonella* Newport bacteria found in human infections have been determined to be resistant to at least eight antibiotics used in humans (ampicillin, chloramphenicol, sulfamethoxazole, streptomycin, tetracycline, amoxicillin/clavulanate, cephalothin, and cefoxitin) and one used in animals (ceftiofur).[5]

---

[1]American Academy of Pediatrics, *Red Book: Report of the Committee on Infectious Diseases*, 25th ed., 502 (2000).

[2]CDC, *Preliminary FoodNet Data on the Incidence of Foodborne Illnesses – Selected Sites, United States, 2001*, MMWR, 325-9 (Apr. 19, 2002).

[3]CDC, *Outbreak of Multidrug-resistant Salmonella Newport – United States, January–April 2002*, MMWR, 545-548 (June 28, 2002).

[4]Memorandum from Dr. Patricia M. Griffin, Chief, Foodborne Diseases Epidemiology Section, and B. Swaminathan, Chief, Laboratory Section of the Foodborne and Diarrheal Diseases Branch, CDC, to State and Territorial Epidemiologists, *Emergence of Highly Multidrug-Resistant Salmonella Newport Infections*, 1 (June 19, 2002).

[5]*Id.*

Resistance to these antibiotics is conferred by a plasmid, a mobile piece of DNA that can spread from bacteria to bacteria. This resistant strain of *Salmonella* Newport is so common that it has its own name: Newport MDR-AmpC. In 1997, none of the *Salmonella* Newport isolates tested by government labs were Newport MDR-AmpC. By 2001, 26% of the isolates tested were Newport MDR-AmpC.[6] Multidrug-resistant *Salmonella* Newport has now been detected in all 15 states participating in the national surveillance system for antimicrobial resistance.[7]

As the prevalence of multidrug-resistant *Salmonella* Newport has soared, so have the number of recognized outbreaks. According to top officials at the Foodborne and Diarrheal Diseases Branch of CDC, in 1999 and 2000 public health authorities recognized about one outbreak each year. In 2001, there were at least seven separate outbreaks, associated with more than 100 human infections. In the first half of 2002, there have already been more than 100 human infections and a death associated with four outbreaks.[8] CDC reported last month on a major outbreak of multidrug-resistant *Salmonella* Newport in New York, Pennsylvania, Ohio, Connecticut, and Michigan. Seventeen individuals were hospitalized and one died.[9]

Agricultural Practices and *Salmonella* Newport

Multiple lines of inquiry suggest that multidrug-resistant *Salmonella* Newport infections originate from agricultural sources. A case-control study conducted by CDC during its most recent investigation found that eating raw or undercooked ground beef increased the odds of disease 50-fold.[10] Another CDC investigation found that exposure to dairy farms was associated with a 7.7-times increase in the odds of disease.[11] A Minnesota study identified multidrug-

---

[6] *Id.*

[7] *Id.* at 2.

[8] *Id.* at 5.

[9] CDC, *supra* note 3.

[10] *Id.*

[11] A. Gupta, C. Crowe, B. Bolstorff, et al. *Multistate Investigation of Multidrug-Resistant Salmonella Serotype Newport Infections in the Northeastern United States, 2000: Human Infections Associated with Dairy Farms*, Abstract Presented at the Meeting of the Infectious Disease Society of America (October 2001) (online at http://www.cdc.gov/narms/mce/past_conferences/idsa/2001/idsa_2001.htm).

resistant *Salmonella* Newport in cattle that was genetically indistinguishable from the bacteria isolated from human illness.[12]

Agricultural practices may contribute to the rise in *Salmonella* Newport. One practice that deserves special scrutiny is the use of medicated milk replacers for calves. About half of dairy farm producers use these products, which frequently contain antibiotics in the tetracycline family.[13] This nontherapeutic use of antibiotics may promote strains of bacteria, such as Newport MDR-AmpC, that are resistant to tetracycline. A second practice that may be linked to the rise in multidrug-resistant *Salmonella* Newport is the common use of the veterinary antibiotic ceftiofur on farms. Like medicated milk replacers, ceftiofur kills many types of bacteria, but not Newport MDR-AmpC, and so may select for this dangerous strain.[14] A third practice that may need further examination is the selling of culled cattle from dairy farms for ground beef without special testing. If these cattle carry *Salmonella* Newport, they may pass it on to other animals prior to slaughter or directly contaminate the food supply.

Implications of Antibiotic Resistance for Young Children

While any rise in bacterial resistance creates concern, *Salmonella* Newport is particularly worrisome because of the types of medically important antibiotics that may be rendered useless. Specifically, Newport MDR-AmpC is resistant to a class of antibiotics called "third-generation cephalosporins." One drug in this class, ceftriaxone, is routinely used to treat young infants with fever who are being evaluated for a source of infection.[15] Ceftriaxone is also commonly used to treat infants younger than three months of age who have *Salmonella* infection.[16]

---

[12]K. Smith, J. Gender, S. Stenzel, et al. *Comparison of Animal and Multidrug-Resistant Isolates of Salmonella Newport in Minnesota*, Abstract Presented at the International Conference on Emerging Infectious Diseases (March 2002).

[13]USDA, *Milk Replacer Management Practices* (September 1993) (online at http://aphisweb.aphis.usda.gov/vs/ceah/cahm/Dairy_Cattle/ndhep/dhpmlk1txt.htm).

[14]Paul D. Fey, Thomas J. Safranek, Mark E. Rupp, et al., *Ceftriaxone-Resistant Salmonella Infection Acquired by a Child from Cattle*, New England Journal of Medicine, 1242-1249 (Apr. 27, 2000).

[15]G. Fleisher, N. Rosenberg, R. Vinci, et al. *Intramuscular Versus Oral Antibiotic Therapy for the Prevention of Meningitis and Other Bacterial Sequelae in Young, Febrile Children at Risk for Occult Bacteremia*, Journal of Pediatrics, 504-512 (April 1994).

[16]Fey, Safranek, Rupp, et al., *supra* note 14. ("Expanded-spectrum cephalosporins, especially ceftriaxone, are frequently used empirically to treat salmonella infections in children.")

The spread of multidrug-resistant *Salmonella* Newport infection thus poses two special risks for young infants. First, for those with fever who are awaiting diagnosis, ceftriaxone may no longer prove effective against a possible source for infection. Second, once infants have a diagnosis of *Salmonella*, a safe and commonly used drug may no longer work. The result may be severe illness or even death. The ineffectiveness of "third generation cephalosporins" in treating *Salmonella* infections would also complicate therapy in immunocompromised and elderly adults. Eventually, rising resistance may push clinicians to the routine use of other antibiotics that are less safe and effective than ceftriaxone.

The specter of ceftriaxone-resistant *Salmonella* causes great concern to public health officials. In 2000, researchers reported the case of a 12-year-old boy who lived on a ranch in Western Nebraska and contracted ceftriaxone-resistant *Salmonella* Typhimurium from cattle. This development was considered significant enough to merit publication in the *New England Journal of Medicine*.[17] In 1998, an estimated 0.5% of all *Salmonella* bacteria in the United States were ceftriaxone-resistant.[18] Because of its rapid increase in prevalence, *Salmonella* Newport threatens to make this rare event commonplace. In 1999 and 2000, 75% of drug-resistant *Salmonella* Newport isolates were resistant to ceftriaxone, versus less than 5% of other types of *Salmonella*.[19] In the future, multidrug-resistant *Salmonella* Newport strains may actually transfer drug resistance genes to other bacteria, fueling antibiotic resistance.

Retreat from *Salmonella* Standards

The growing threat of *Salmonella* Newport arrives in the setting of weakening federal efforts to fight *Salmonella* contamination of poultry and beef. In 1996, USDA finalized the HACCP rule that set standards on *Salmonella* contamination for slaughterhouses and processing companies that made ground beef. If rates of *Salmonella* exceeded the standards, USDA could close a plant.[20]

---

[17] *Id.*

[18] E. Dunne, P. Fey, P. Kludt, et al, *Emergence of Domestically Acquired Ceftriaxone-Resistant Salmonella Infections Associated with AmpC Beta-Lactamase*, Journal of the American Medical Association, 3151-6 (Dec. 27, 2000).

[19] S. Rossiter, K. Joyce, J. Stevenson, T. Barrett, A. Anderson and the NARMS Working Group, *Multidrug-Resistance among Human Non-Typhoidal Salmonella Isolates in the United States: NARMS 1999-2000*, Abstract presented at the International Conference on Emerging Infectious Diseases 2002 (March 2002) (online at http://www.cdc.gov/narms/mce/past_conferences/iceid/2002/2002.htm).

[20] 61 CFR 38805 (July 25, 1996).

As you know, in 2000, following an appeal from a Texas company called Supreme Beef, a U.S. district court ruled that USDA did not have authority to enforce performance standards for *Salmonella* contamination.[21] When the Court of Appeals affirmed this ruling in December 2001, USDA chose to accept that it could not close facilities on the basis of *Salmonella* contamination alone instead of appealing further.[22] The agency also did not support efforts in Congress to codify USDA's authority to set *Salmonella* standards and end the legal standoff through legislation. Nor did the agency pursue administrative action. Under the Federal Meat Inspection Act, USDA could declare that multidrug-resistant *Salmonella* Newport is an adulterant, which would give USDA authority to halt the sale of meat contaminated with this dangerous pathogen.

The result is that while USDA's inspectors continue to inspect each meat carcass manually for visible defects in plants across the country (using the so-called "poke and sniff" method), the agency cannot close a plant solely on the basis of unacceptable levels of *Salmonella* contamination, and does not routinely screen for multi-drug resistant *Salmonella* Newport. This means that the government may not be able to prevent a slaughterhouse or processing company from selling meat that is contaminated with this life-threatening bacteria.

Meeting the Challenge of Multidrug-Resistant *Salmonella* Newport

Because of the serious risk it poses to the American public, multidrug-resistant *Salmonella* Newport deserves your urgent attention. I urge you to adopt a three-pronged approach that would include new research, enhanced surveillance, and immediate actions to safeguard the food supply.

First, additional research efforts are needed. While I understand that the National Animal Health Monitoring System at USDA is planning some limited sampling for *Salmonella* in a survey of dairy farms, CDC officials have recently written that the USDA study may not be useful for understanding *Salmonella* Newport. They added that "much remains to be done to further characterize the sources and to develop definitive control measures."[23] The following studies deserve your urgent consideration:

- A dairy farm study designed to identify factors associated with the presence of multidrug-resistant *Salmonella* Newport, such as the use of medicated milk replacers and the use of ceftiofur. Such a study could point the way to farm practices that might reduce the spread of this dangerous bacteria.

---

[21]Supreme Beef Processors, Inc. v. USDA, 113 F. Supp. 2d 1048 (N.D. Tex. 2000).

[22]Supreme Beef Processors, Inc. v. USDA, 275 F. 3d 432 (5th Cir. 2001).

[23]Memorandum, *supra* note 4, at 2.

- A slaughterhouse study designed to identify risk factors for the presence of multidrug-resistant *Salmonella* Newport, such as culled cattle. Such a study could lead to the development of new precautions to protect the food supply.

Second, surveillance of multidrug-resistant *Salmonella* Newport must also be enhanced. By requiring frequent sampling for the presence of the resistant bacteria at slaughterhouses all over the country, USDA can monitor the spread of *Salmonella* Newport.

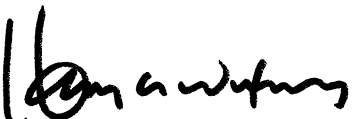
Third, I urge you to consider basic steps to protect the food supply while waiting for additional direction from public health officials. You should support efforts in Congress to grant USDA authority to set enforceable standards against excessive *Salmonella* and other bacterial contamination. You should also consider taking action pursuant to the Federal Meat Inspection Act to designate multidrug-resistant *Salmonella* Newport an adulterant in beef, as was done for *E. coli* O157:H7 in 1994. While such a step would require careful consideration and would not address the underlying causes of the problem that may originate on farms, it would help the agency prevent meat known to be contaminated from being sold. USDA should also enhance efforts to inform the public on ways to prevent food-borne disease.

Conclusion

The recent recall of 19 million pounds of meat because of contamination with *E. coli* O157:H7 highlights the need for preventive action by USDA to protect consumers. The rapid rise of infections caused by multidrug-resistant *Salmonella* Newport is another sign that current enforcement of food safety rules may be inadequate. I urge you to take decisive steps to understand and control multidrug-resistant *Salmonella* Newport before more Americans, including children, contract this serious and potentially fatal disease.

I respectfully request a reply to this letter by August 19, 2002.

Sincerely,



Henry A. Waxman
Ranking Minority Member